Summary

This final Billings Resource Area Management Plan/ Environmental Impact Statement (FEIS) presents four alternatives, including the Bureau of Land Management's (BLM's) Proposed Land Use Plan, for managing the public land resources in an eight county area of southcentral Montana. The BLM Billings Resource Area Office manages an area encompassing 425,336 surface acres of public land and 906,084 acres of mineral ownership in Carbon, Big Horn, Golden Valley, Musselshell, Stillwater, Sweet Grass, Wheatland and Yellowstone Counties, Montana. The resource area also manages 6,340 acres in Big Horn County, Wyoming, within the Pryor Mountain Wild Horse Range.

This document consists of five chapters. Chapter 1 is a summarization of the planning process and the major issues identified through the public involvement process and by BLM resource specialists. Chapter 1 also discusses seven ongoing resource programs that will not be affected and are not examined elsewhere in this document as well as the management responsibilities common to all alternatives.

Chapter 2 presents the four alternative land use plans involving 13 issue areas. The issues, or problem areas, discussed in this chapter are grazing management, wild horse management, wildlife management, timber management, coal leasing, oil and gas leasing, land tenure adjustment, classifications under the Classification and Multiple Use Act of 1964, recreational access, off-road vehicle use, environmental education, wild horse interpretation and the wilderness study of selected lands.

The four alternatives are presented utilizing a common theme or scenario for analysis purposes. These themes are:

1. BLM's Proposed Land Use Plan. This management alternative is a selection of one, or portions of the other three alternatives which presents the best mix of resource considerations and favorable economic and social factors. The proposed plan in this FEIS is a modified version of the Preferred Alternative presented in the draft environmental impact statement printed in April 1983, and was significantly shaped by public reaction to the draft.
2. Continuation of Existing Management Alternative. This alternative level would maintain the present management direction, while responding to the requirements of new regulations and changing policies. This alternative is the no action alternative required by regulations of the Council on Environmental Quality.
3. Low Level Management Alternative. This alternative would place fewer restrictions on development and would result in a lesser degree of protection of resource values, emphasizing resource exploitation.
4. High Level Management Alternative. This alternative would result in more restrictions on development, and provide a greater degree of environmental protection.

Chapter 3 is a description of the physical setting of the Billings Resource Area and those resources present which could be affected by decisions made in this land use plan.

Chapter 4 includes a section on the assumptions used by BLM resource specialists in assessing environmental impacts potentially resulting from implementing each of these alternatives. A General Impact section provides a discussion of impacts, which, for the most part, are common to all alternatives. These impacts may vary in magnitude and type from one alternative to another depending upon the level of action proposed. The general impacts from proposed actions are quantified and assessed on a cumulative impact basis for each alternative plan in Chapter 4. This segment also includes a discussion of impacts which are specific to the alternative proposals but not included in the General Impact section.

Chapter 5 summarizes the public involvement process and gives a listing of the agencies, organizations and individuals consulted during the planning process. This chapter also contains copies of the transcripts from the Lovell, Wyoming, and Billings, Montana public hearings, and letters received during the 90 day comment period from Federal, state and local government agencies, as well as environmental groups, industry and individuals. The BLM's response to these comments is also provided.

The recommended action and environmental consequences that characterize each of the alternatives are summarized below:

ENVIRONMENTAL CONSEQUENCES

RESOURCE ISSUE	PROPOSED PLAN	CONTINUATION OF EXISTING MANAGEMENT ALTERNATIVE	LOW LEVEL ALTERNATIVE	HIGH LEVEL ALTERNATIVE
1. Grazing Management	Increase AUMs by 10,711 in long term. Total of 152 structural range improvements. Mechanical treatment on 6,818 acres, burn 21,520 acres, spray 45 acres of leafy spurge.	Increase AUMs by 3,120 in long term. Total of 66 structural range improvements. Spray 45 acres of leafy spurge.	Reduce AUMs by 2,221 from total of 62,037 AUMs.	Same as proposed level.
2. Wild Horse Management	Maintain wild horse population at 121 head. Potential for 179 head in 25 years or longer. Build 7 miles of fence, install 5 new water catchments, improvements to 8 horse traps, proposed acquisition of 2,240 acres of non-public lands.	Same as proposed plan with exception of non-public land acquisition.	Wild horse population at 130 head initially, natural rise and fall in populations long term. Build 5 miles of fence, install 10 water catchments.	Maintain wild horse population at 121 head, potential for 179 head in 25 years or longer. Build 15-19 miles of fence, install 7-8 water catchments, improve 8 horse traps, proposed acquisition of 2,240 acres of non-public lands.
3. Wildlife Management	Monitor 60,000 acres of terrestrial habitat, 12 waterfowl reservoirs, 300 acres of prairie dog towns, 10 miles of streams and 3 reservoirs. Develop 1 habitat management plan for chukar partridge, install 5 watering devices, develop 50 waterfowl nesting islands, fence 7 reservoirs, install 20 raptor nesting platforms, develop 3 fishing reservoirs, range management practices to improve wildlife habitat to 41 miles of woody floodplain in I category allotments, plant 25 acres of dense nesting cover.	Monitor 50,000 acres of terrestrial habitat, 7 waterfowl reservoirs, 300 acres of prairie dog towns, 5 miles of streams and 2 reservoirs. Install 12 watering devices, 20 waterfowl nesting islands, fence 7 reservoirs, fence 10 acres of riparian habitat.	Monitor 40,000 acres of terrestrial habitat.	Monitor 10,000 acres of terrestrial habitat, 12 waterfowl reservoirs, 300 acres of prairie dog towns, 10 miles of streams and 3 potential fisheries reservoirs. Develop HMPs for chukar partridge, waterfowl, fisheries. Install 20 watering devices, develop 50 waterfowl islands, fence 7 reservoirs, install 20 raptor nesting platforms and develop 3 fisheries reservoirs. Range management practices to improve wildlife habitat to 41 miles of woody floodplain in I category allotments, plant 25 acres of dense nesting cover.
4. Timber Management	Cut 70 thousand board feet annually. Designate 9,500 forested acres as protected areas.	Cut 45 thousand board feet annually. Designate 14,457 acres as protected areas.	Cut 90 thousand board feet annually. Designate 217 acres as protected areas.	Cut 45 thousand board feet annually. Designate 15,607 acres as protected areas.
5. Coal	Carry forward 9,360 acres (20:1 stripping ratio), 114 million tons, pending further study for possible surface mining, but recommend to the RCT that a 10:1 stripping ratio be utilized reducing this acreage figure to 4,704 acres. Apply wildlife and cultural unsuitability criteria in FY-84. No mining in short term (8 years), 1992 construction start, 1994 mining start. 150,000 tons mined first year, 300,000 tons thereafter. All coal carried forward suitable for underground mining pending further study. Continue two existing mines in Bull Mountains through emergency leasing.	Maintain current production of 10,000 tons per year for two existing mines in Bull Mountains.	All 9,360 acres would be available for surface mining--no further constraints. 4,350,000 tons would be mined in long term (25 years). No mining in short term, 1992 construction start, 1994 mining start. 150,000 tons mined first year, 300,000 tons annually thereafter.	Some tonnage as proposed action. Would be less acreage based on further application of multiple resource constraints. Mining at a 20:1 stripping ratio.
6. Oil and Gas Leasing	No acreage specified for no lease category lands. Possibility of withholding wild horse range, sensitive cultural and wildlife areas. 70,000 acres to be leased with special stipulations. 579,443 acres with standard stipulations.	No acreage in no lease category. 49,870 acres in special stipulation areas. 599,573 acres in standard stipulation areas.	649,443 acres leased with standard stipulations.	Same as proposed plan.

	RESOURCE ISSUE	PROPOSED PLAN	CONTINUATION OF EXISTING MANAGEMENT ALTERNATIVE	LOW LEVEL ALTERNATIVE	HIGH LEVEL ALTERNATIVE
7.	Land Tenure Adjustment	Total of 6,499 acres available for exchange or disposal by any legal means in the land tenure adjustment area. This includes 3,517 acres from original disposal category (a reduction of 1,720 acres) and 2,982 acres in original exchange category. Retention--27,275 acres and 2,382 acres in further study. Remainder of Billings Resource Area zoned. 364,350 acres - retention; 52,500 acres - disposal. Disposal zones represent less than 10% of total acreage. Emphasis on exchange for all disposal lands.	Continue program of sales and exchanges which averages approximately 1,142 acres short term, 3,570 acres long term. Based on last 10 years average.	No land tenure program. Retain all 36,156 acres in land tenure adjustment area.	Same as proposed plan.
8.	C&MU Classifications	980 acres segregated from mineral entry in Pryor Mountains where developments occur on wild horse range.	28,586 acres segregated from mineral entry.	No acreage segregated.	Same as Continuation of Existing Management Alternative.
9.	Recreation Access	Acquire access into 7 areas.	No proposal to acquire additional access.	No proposal to acquire additional access.	Acquire access into 10 areas.
10.	Off-Road Vehicle Use	Restrict ORV use on 57,830 acres including Pryor Mountains, environmental education sites, Asparagus Point and 70 acres in the South Hills. Possible future closures of public lands adjacent to Shepherd Environmental Education Area. Open five roads totalling 9 miles on west side of Pryor Mountains. Close one road totalling 3 miles which penetrates Pryor Mountain WSA.	Restrict ORV use on 55,800 acres. 70 acres in South Hills formally closed.	Restrict ORV use on 55,800 acres. 70 acres in South Hills formally closed. 13 miles of formerly closed roads to be opened.	Restrict ORV use in 139,800 acres. 70 acres in South Hills closed, close 2 miles of additional roads.
11.	Environmental Education	Maintain 77 acre Shepherd Ah-Nei Area, open the 56 acre Acton Area if visitation exceeds 6,000 visitors/year at Shepherd.	Maintain 77 acre Shepherd Ah-Nei Area for environmental education purposes.	No environmental education areas specifically identified.	Designate both the Acton and Shepherd sites as environmental education areas. Total of 133 acres.
12.	Wild Horse Interpretation	No interpretive center proposed. Possible interpretive development somewhere on wild horse range in the future. Work with National Park Service and Forest Service for interpretive signing, interpretive presentation at Park Service Lovell Visitor Center. Six boundary or roadway signs on BLM lands.	Maintain three existing roadway signs.	Maintain three existing roadway signs.	Develop Winddrinker Overlook Interpretive Site. Place three more roadway signs, develop 1 mile of road.
13.	Wilderness	Recommend suitable: 1. Pryor Mtn. - 16,927 acres 2. Burnt Timber Canyon - 3,430 acres 3. Big Horn Tack-On - 2,550 acres Recommend non-suitable: 1. Twin Coulee - 6,870 acres 2. Burnt Timber Canyon - 525 acres 3. Big Horn Tack-On - 2,000 acres	All WSAs (32,302 acres) recommended non-suitable. Continue present resource usages.	All WSAs (32,302 acres) recommended non-suitable. Multiple use management recommended.	All WSAs (32,302 acres) recommended suitable for wilderness preservation.

Proposed Land Use Plan

Improvements in ecological range conditions would be the same as those described in the High Level Management Alternative.

The current ecological range conditions on that portion of the Pryor Mountain Wild Horse Range (PMWHR) in Montana would remain static with a slight upward trend in the long term. Range conditions in the Wyoming portion of the PMWHR would remain static. Management cost would increase slightly.

Land tenure adjustment could result in a reduction of 49,809 acres. This would be insignificant in relation to the total amount of public land in the resource area. With land exchange being the predominant method of disposal, less public land acreage would be lost, while land with more desirable public values would be acquired through exchange or exchange pooling.

Surface disturbances, from all actions, could result in a loss of 3,483 acres of native vegetation. However, mitigating practices such as reseeding, rehabilitation and increased forage produced as a result of grazing management practices could reduce this loss to an insignificant amount.

Spraying with Tordon would decrease leafy spurge on 100 acres in the short term.

The amount of timber harvested would be 560 thousand board feet in the short term and 1.19 million board feet (MMBF) in the long term. Areas protected from commercial timber harvest would decrease by 34%, to 9,500 acres.

Wildlife habitat would improve moderately in the short term and significantly in the long term, primarily because of increased vegetation production due to grazing management practices. Additional livestock watering sources would expand wildlife habitat significantly on the improve ("I") category allotments. There would be a moderate decrease in chukar partridge and sage grouse habitat due to the burning of 21,520 acres of sagebrush. However, this would result in a moderate increase in sharptail grouse habitat. Chukar partridge habitat would expand by 1,600 acres due to five additional wildlife watering sources. The development of 19 reservoirs and 50 nesting islands, fencing 7 existing reservoirs and planting 25 acres of dense nesting cover would significantly expand waterfowl habitat. This would increase the duck population by an estimated 350 ducks annually. Nesting cover for upland game birds would increase on 57,900 acres due to decreased off-road vehicle use. Ecological range condition on 80% of 41 miles of woody floodplain zone would improve or be maintained at good and excellent condition.

Nine thousand three hundred and sixty (9,360) acres would be considered as acceptable for further consideration for coal surface mining pending further study in the Bull Mountain Coal Field. This decision also eliminates from further consideration for leasing (Federal coal which is potentially surface mineable) the following acreages in the Bull Mountains:

10,920 acres because of surface owner opposition
2,480 acres because lands are subdivided
418 acres because of the application of unsuitability criteria

It should be noted that this plan decision seeks to encourage underground mining at the expense of other mining methods in the Bull Mountains. Large scale surface mining of Federal coal in the Bull Mountains would be discouraged in later activity planning. It would be recommended later to the Regional Coal Team during the Coal Activity Planning Process that a 10:1 stripping ratio of high potential coal be utilized in delineating tracts, reducing this acreage figure to 4,704 acres. Additional multiple use constraints may further reduce the area acceptable. Coal reserves within the 80 acre Federal lease in the Bull Mountains would be depleted in 4 years and would total approximately 40,000 tons. Emergency leasing would continue current production of the existing mine in the short and long term. The anticipated additional surface mining in the Bull Mountains would deplete reserves by 4,350,000 tons in the long term. This represents approximately 3% of the total coal reserves in the area and is considered insignificant. One or more underground mines could also be developed in the Bull Mountains. No prediction of the reserve with potential for removal is available. A potential underground mine in the Joliet/Fromberg area would deplete reserves by 630,000 tons in the short term and 2,550,000 tons in the long term. This scenario is discussed for analysis purposes only in the Joliet/Fromberg area. Total coal reserve figures for this field are unavailable at this time.

Oil and gas would be leased with standard stipulations on 579,443 acres and special stipulations on approximately 70,000 acres. Approximately 980 acres would remain segregated against locatable mineral entry.

Watershed conditions would improve significantly due to intensive grazing management and improved ecological range conditions. Water quality would decrease in the short term due to waterfowl nesting island construction. In the long term, water quality would increase due to decreases in sediment yield.

Hunting opportunities would increase significantly because of wildlife habitat improvement and expansion plus additional access to public lands. Fishing and floating opportunities would increase significantly due to increased access to rivers and the development of three additional fishing reservoirs. Physical restriction to cross-country access would increase moderately due to additional fencing and land treatments.

Restrictions on off-road vehicle (ORV) use on 57,830 acres would be a 4% increase from the current level. Seventy-seven acres would remain available for environmental education with an additional 56 acres available if visitors at the original site exceed 6,000 people annually. Environmental education sites would not be made available if major vandalism becomes a problem. Wild horse interpretation would remain at existing levels with the exception of a possible interpretive panel located along the Bad Pass Highway and several roadside signs. An interpretation site could be developed in the future.

Surface disturbing activities could affect 182 cultural sites. This would be insignificant due to mitigating practices.

Long-term minor impacts to visual resources would occur under this alternative.

Wilderness values would be preserved on 22,907 acres. In the long term, multiple use proposals could be permitted on the 9,395 acres not recommended for wilderness designation. These actions would be insignificant in terms of wilderness opportunities available in the region.

Permit values and animal unit month (AUM) changes would be the same as those described in the High Level Management Alternative. Social and economic impacts resulting from coal development are also the same as those described in the High Level Management Alternative.

Range improvement costs would total $995,725. Noxious weed control would result in a $3,000 annual cost.

Wild horse range improvements would cost $56,500. In the short term, approximately $21,000 would be incurred annually in order to excess approximately 30 wild horses.

Improvements for the benefit of wildlife would total $75,500.

Continuation of Existing Management Alternative

The ecological range conditions in the "I" category allotments would improve moderately in the long term; primarily from prescribed grazing treatments, range improvements and better livestock distribution. No vegetative manipulation or mechanical treatments other than the annual spraying of 45 acres of leafy spurge within a 100 acre area would be utilized under this alternative. The acreages in excellent and good range condition would increase by 84% and 58% respectively, and the range in poor and fair condition would decrease by 78% and 44% respectively. These changes would occur in the long term and would be moderately significant. Ecological range conditions would remain static in the maintain ("M") and custodial ("C") category allotments. Vegetation allocations to livestock may increase by 4% in the short term and 5% in the long term.

Under present management, ecological range conditions in the Pryor Mountain Wild Horse Range would remain static with a slight upward trend in the long term. Range conditions on that portion of the PMWHR in Wyoming, would remain static. Management costs would increase slightly.

Land tenure adjustment could result in a decrease of 1,142 acres currently under Federal management in the short term and 3,570 acres in the long term. However, these acres may be used for land exchange pooling, and may not represent a loss in terms of management by a Federal entity. Overall, the impact on management would be insignificant.

Surface disturbances, from all actions, could result in a loss of 1,076 acres of native vegetation. However, mitigating practices such as reseeding, rehabilitation and increased forage produced from grazing management practices could reduce the vegetative loss under this alternative. Therefore, this loss would be insignificant.

Spraying with Tordon would decrease leafy spurge on 100 acres in the short term (45 acres of this total would be sprayed yearly).

The amount of timber harvested would be 360 thousand board feet in the short term and 765 thousand board feet in the long term. The area protected from commercial timber harvest would remain the same, at 14,457 acres.

Wildlife habitat for big game, upland game birds and nongame species would improve slightly in the short term and moderately in the long term, primarily because of increased vegetation production due to grazing management practices. Additional livestock watering sources would expand wildlife habitat slightly on the "I" category allotments. Chukar partridge habitat may expand by 3,800 acres due to 12 additional wildlife watering sources. The development of 4 reservoirs and 20 nesting islands and fencing 7 existing reservoirs would significantly expand waterfowl habitat and increase the duck population by an estimated 140 ducks annually. The nesting potential for upland game birds would increase on 55,870 acres due to decreased off-road vehicle use.

Coal reserves within the 80 acre Federal lease in the Bull Mountains would be depleted in 4 years. Approximately 40,000 tons of coal would be removed from this lease during that time period, an insignificant decrease of the Federal coal resource. Emergency leasing only would be allowed to maintain this rate of production.

Oil and gas would be leased with standard stipulations on 599,573 acres, and with special stipulations on 49,870 acres. Currently, there are 28,586 acres in the PMWHR segregated against mineral entry and this segregation would remain the same. The PMWHR may be leased for oil and gas with no surface occupancy under existing management.

Watershed conditions would improve moderately, with the exception of 28,585 acres in need of vegetative manipulation. Runoff potential in these areas would remain moderate to severe in the short term. Water quality would increase primarily due to decreases in sediment yield.

Hunting opportunities would increase slightly because of wildlife habitat improvement and expansion. Fishing and floating opportunities would remain the same. Physical restrictions to cross-country access would increase slightly due to new fencing.

Restrictions on off-road vehicle use on 55,870 acres would remain the same. Seventy-seven acres would remain available for environmental education. Wild horse interpretation would remain static.

Surface disturbing activities or projects could affect 24 cultural sites in this alternative. However, with proper mitigation, impacts would be insignificant.

Long-term, minor impacts to visual resources would occur under this alternative but are considered insignificant.

There are 32,302 acres currently under wilderness study. There is a long-term potential for the loss of wilderness values without legislative protection in the Twin Coulee WSA. This is primarily due to the commercial timber present. It is not expected that the management of the three Pryor Mountain areas, Burnt Timber Canyon, Pryor Mountain and Big Horn Tack-On would change greatly with or without wilderness designation. These areas are currently managed as part of the Pryor Mountain Wild Horse Range. The present management of the horse range is compatible with the preservation of wilderness values. Mineral potential is considered low in these areas but if development did occur, under a no wilderness alternative, some wilderness values would be lost. Losses of wilderness values in the four study areas and units would be insignificant in relation to wilderness resources now protected in the region.

In the long term, 28 ranches would show increases in income due to a 19% increase in BLM AUMs. The net annual income would increase by $187 on small operations and by $1,203 on very large operations. Grazing permit values would increase by $3,600 for small operations, $9,300 for medium size operations, $12,500 for large operations and by $18,800 for the very large operations. These economic factors would be significant to some local operators but insignificant on a regional basis.

Structural range improvements would cost $314,000. Weed control would cost $3,000 annually and structural improvements on the Pryor Mountain Wild Horse Range would total $56,500. The wild horse excessing program would continue to cost approximately $21,000 annually. Structural improvements for the benefit of wildlife management would total $42,100.

Low Level Management Alternative

Improvement of the ecological range conditions in the "I" category allotments would be minimal, since the only management direction considered would be adjustments in the amount or seasonal use of livestock grazing. The acreage of range in good condition would increase by 10% and the range in fair condition would decrease by 9%. These changes would occur during the long term and are insignificant. Ecological range conditions would remain static in the "M" and "C" category allotments. Vegetation allocations to livestock would decrease by an insignificant amount (2% in the short term and 0.6% in the long term).

The acreage of range in poor condition on that portion of the PMWHR in Montana could increase as much as 293% and range in fair and good condition could decrease by 100% in the long term. Range conditions on the Wyoming portion of the PMWHR would deteriorate. Inbreeding, disease, harsh winters and poor range conditions could reduce wild horse populations far below present levels. These changes are highly significant.

Surface disturbances, from all actions, could result in a loss of 1,875 acres of native vegetation. However, mitigating practices such as reseeding and rehabilitation could reduce this figure significantly.

The amount of timber harvested would be 720 thousand board feet in the short term and 1.53 MMBF in the long term. The area protected from commercial timber harvest would decrease significantly (98%), leaving 217 acres in a protection category.

Wildlife habitat for big game, upland game birds, waterfowl and nongame species would remain static or may show a very slight improvement, primarily due to increased vegetation production on the "I" category allotments. Wildlife habitat, within the PMWHR, would be drastically reduced as horse populations increase and range conditions deteriorate. Nesting cover for upland game birds would increase slightly on 55,870 acres due to decreased off-road vehicle use. Harassment and relocation of wildlife species would increase sharply, primarily due to increased surface disturbing activities such as mining and logging. Aquatic habitat (streambank vegetation) would deteriorate slightly since no new range improvements would be constructed. Impacts to wildlife resources are considered insignificant, except within the PMWHR where wildlife habitat would decline significantly.

In this alternative, 9,360 acres would be considered as acceptable for further consideration for leasing pending further study. Coal reserves within the 80 acre Federal lease in the Bull Mountains would be depleted in 4 years and would total approximately 40,000 tons removed during this time period. The potential additional surface mining in the Bull Mountains would deplete reserves by 4,350,000 tons in the long term. This represents approximately 3% of the total coal reserves in that field and is considered insignificant. One or more underground mines could also be developed in the Bull Mountains, however, no prediction of reserves to be removed was available. Potential additional underground mining in the Joliet/Fromberg area would deplete coal reserves by 630,000 tons in the short term and 2,550,000 tons in the long term. This potential scenario is discussed for analysis purposes only in the Joliet/Fromberg area. Total coal reserve figures for this mine are not available.

Oil and gas would be leased with standard stipulations on 649,443 acres. No acreage would be segregated from locatable mineral entry.

Watershed conditions in the PMWHR would deteriorate moderately due to a deterioration in range conditions. Water quality would decrease primarily due to increases in the area wide sediment yield.

No significant increases in hunting or fishing opportunities would occur, primarily due to a lack of wildlife habitat improvement or expansion.

Restrictions on ORV use on 55,870 acres would remain the same with the exception of reopening 13 miles of roads. No areas would be available for environmental education. Wild horse interpretation opportunities would remain the same.

Surface disturbing activities could potentially affect 30 cultural sites. These sites would be mitigated and impacts would be insignificant.

Surface disturbances from timber cutting, mineral exploration and changes in wild horse management practices would impair visual resources significantly.

A no wilderness recommendation could result in a potential loss of wilderness values on 32,302 acres. As is described in the Continuation of Existing Management Alternative, this would be insignificant in terms of wilderness opportunities in the region.

Twenty-eight ranches would have a significant decrease in income due to a loss of 20% of their AUMs with the implementation of this alternative. The average reduction in net annual income would range from $551 on small operations to $3,408 on very large operations.

By the end of the short-term period (8 years) the available forage would increase to within 11% of the original allocations. The same 28 ranches would still be impacted with losses ranging from $305 on small operations to $1,886 on very large operations.

After 25 years, the 28 ranches would lose about 3% of their original allocations. These reductions would range from $87 on small operations to $519 on the very large operations.

Initial grazing permit value losses would range from $3,800 on the small ranches to $19,700 on the very large ranches. After 25 years, annual losses would decrease to $600 on the small operations and $3,000 on the very large operations.

No additional operational expenses would be incurred under this alternative since no new project developments for grazing, wildlife or wild horses would be implemented.

High Level Management Alternative

Ecological range condition in the "I" category allotments would improve significantly in the long term; primarily from prescribed grazing treatments, range improvements, better livestock distribution, sagebrush burning, interseeding, disking and chiseling. The acreages in excellent and good range condition would increase by 84% and 88% respectively and range in fair and poor condition would decrease by 71% and 78% respectively. In the "M" and "C" category allotments, the acreage of range in good condition would increase by 4% and range in fair and poor condition would decrease by 6%. These increases would be due primarily to burning sagebrush on 7,400 acres in these allotments. Vegetation allocations to livestock would increase by 17% over the long term.

The acreage in good condition in that portion of the PMWHR in Montana would increase significantly by 368% and range in fair condition would decrease by 448% in the long term. The range in poor condition would remain static in the long term. Range conditions in the Wyoming portion of the PMWHR would also remain static. The long-term carrying capacity of the PMWHR would increase significantly (48%), from 121 head of horses to an estimated 179 head. Development of an interpretation site could potentially increase wild horse harassment.

Land tenure adjustment could result in a reduction of 49,809 acres currently under Federal management. This would be insignificant in terms of the total public land acreage in the resource area. With land exchange being the predominant method of disposal, less public land acreage would be lost, while land with more desirable public values would be acquired through exchange.

Surface disturbances, from all actions, could result in a loss of 3,242 acres of native vegetation. However, mitigating practices such as reseeding and rehabilitation could reduce this figure significantly. This loss would also be offset by the increased forage produced resulting from grazing management practices.

Spraying with Tordon would decrease leafy spurge on 100 acres in the short term.

The amount of timber harvested would be 360 thousand board feet in the short term and 765 thousand board feet in the long term. The area protected from commercial timber harvest would increase by 8%, to 15,607 acres.

Wildlife habitat would improve moderately in the short term and significantly in the long term, primarily because of increased vegetation production due to grazing management practices. Additional livestock watering sources would expand wildlife habitat significantly on the "I" category allotments. There would be a moderate decrease in chukar partridge and sage grouse habitat due to the burning of 21,520 acres of sagebrush. However, this would result in a moderate increase in sharptail grouse habitat. Chukar partridge habitat would expand by 6,400 acres as a result of 20 additional wildlife watering sources. The development of 19 reservoirs and 50 nesting islands, fencing 7 existing reservoirs, and the planting of 25 acres of dense nesting cover would significantly expand waterfowl habitat. This would increase the duck population by an estimated 350 ducks annually. Nesting cover for upland game birds would increase on 139,870 acres due to decreased off-road vehicle use.

Ecological range conditions on 80% of 41 miles of woody floodplain zone would improve or be maintained at good and excellent condition.

All Federal coal in the resource area which would be mined by underground methods is available for further consideration for leasing or exchange, pending further study. In addition, 9,360 acres of potentially surface mineable Federal coal reserves in the Bull Mountains are available for further consideration for leasing or exchange, pending further study. This decision also eliminates from further consideration for leasing (Federal coal which is potentially surface mineable) the following acreages in the Bull Mountains:

10,920 acres because of surface owner opposition
2,480 acres because lands are subdivided
418 acres because of the application of unsuitability criteria

Coal reserves within the 80 acre Federal lease in the Bull Mountains would be depleted in 4 years and would total approximately 40,000 tons. However, emergency leasing would continue current production levels in the short and long term of this mine. The potential additional surface mining in the Bull Mountains would deplete reserves by 4,350,000 tons in the long term. This represents approximately 3% of the total coal reserves in the area and is considered insignificant. One or more underground mines could also be developed in the Bull Mountains. No prediction of the reserve available for removal was available. A potential underground mine in the Joliet/Fromberg area would deplete reserves by 630,000 tons in the short term and 2,550,000 tons in the long term. This scenario is discussed for analysis purposes only. Total coal reserve figures for this field are unavailable at this time.

Oil and gas would be leased with standard stipulations on 579,443 acres and with special stipulations on approximately 70,000 acres. There is also a strong probability that some areas would not be leased, but this acreage cannot be quantified at the present time. Approximately 28,586 acres in the PMWHR would be segregated against mineral entry.

Watershed conditions would improve significantly due to intensive grazing management and improved range conditions. In the long term, overall water quality would increase, primarily due to decreases in sediment yield.

Hunting opportunities would increase significantly because of wildlife habitat improvement and expansion as well as additional access to public lands. Fishing and floating opportunities would increase significantly due to increased access to rivers and the development of three additional fishing reservoirs.

Physical restrictions to cross-country travel would increase moderately due to additional fencing and land treatments. Restrictions on ORV use on 139,870 acres would result in a significant (150%) increase from the current level. Approximately 153 acres would be made available for environmental education. Wild horse interpretation would increase significantly by constructing the Winddrinker Overlook. The BLM has developed an activity plan which was approved in 1980 for the management of the Winddrinker Overlook site. This plan is on file in the Billings Resource Area Office.

Surface disturbing activities could affect 189 cultural sites. These impacts would be insignificant due to mitigating practices.

Long-term minor impacts to visual resources would occur under this alternative.

Wilderness values would be preserved on 32,302 acres. This would be insignificant in terms of the wilderness opportunities available in the region.

The overall short-term impact on ranch income in this alternative would be minimal. This is because the only identifiable change in AUMs would be the temporary disruption of grazing as mechanical treatments are applied or grazing systems implemented.

In the long term 43 ranches would show an increase in income due to a 38% increase in available AUMs. The average net annual income would increase by $380 on small operations and by $2,400 on very large operations.

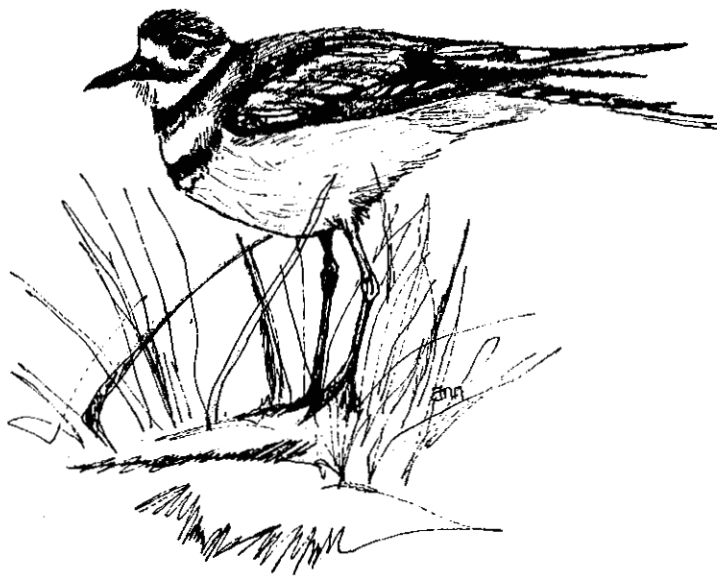
With this alternative, permit values would increase by $7,300 for the small operations, $18,600 for the medium operations, $25,000 for the large operations and by $37,500 for the very large operations in the long term. This represents a 38% increase in permit value for each representative size category.

According to the economic and demographic model (ED Model), prepared by the BLM Montana State Office, population increases resulting from possible coal development are projected to be less than 1% for Yellowstone, Musselshell and Carbon Counties as well as the communities of Billings, Roundup and Fromberg. These small population increases would not significantly impact social well-being, social organization or community services.

Adjustments in the landownership pattern may mean a small loss or redistribution of Payment in Lieu of Taxes (PILT) payments to the counties. There would also be an increase in the local tax base. The magnitude of these changes would be insignificant. Such an adjustment in the landownership pattern would probably result in strong reaction from both those individuals and groups favoring and opposing the transfer of public lands.

Structural range improvements would cost $995,725 under this alternative. Noxious weed control would result in $3,000 annual costs. Wild horse range improvements would total $106,000 while improvements for the benefit of wildlife totals $102,500. Costs for a wild horse interpretive facility at the Winddrinker site would exceed $100,000.

The following is an abbreviated summary of these four alternatives.



Summary of Major Changes From Draft RMP/EIS to Final RMP/EIS

The entire draft resource management plan/environmental impact statement (RMP/EIS) which was released to the public in April 1983, has been reprinted in this document with the incorporation of major changes resulting from public comment. This summary is provided in order to assist the reader in finding changes which are important in understanding the land use proposals for the Billings Resource Area. These changes are as follows:

An overlay has been prepared (inside map pocket, back cover) depicting land tenure disposal and retention zones for the entire resource area.

Maps of the Bull Mountain coal fields in Chapter 3 have been revised to more accurately portray the results of the application of the Federal coal planning screens and the affected acreage. A scenario using a 10:1 coal stripping ratio and summary of probable impacts has also been added to the proposed plan section as advice to the Regional Coal Team for further use in activity planning.

Eight areas sensitive to oil and gas leasing, where special stipulations may be applied have been added to the sensitive areas listing and mapped on the overlay which also contains the land tenure zones.

Maps of the South Hills and Shepherd Environmental Education area where off-road vehicle restrictions or closures are in effect have been added to the Proposed Plan section.

Extensive sections have been added to the grazing management, wildlife and coal discussions for clarification in response to public comments.

The southern portion of the Big Horn Tack-On wilderness study area consisting of 2,550 acres which was recommended nonsuitable for wilderness designation in the draft RMP/EIS is now included in the suitable recommendations for the wilderness study areas (WSAs) in the Pryor Mountains.

Acreage segregated from mineral entry has been increased from 50 to 980 acres.

The discussions on the PMWHR have been strengthened to emphasize that BLM's objective is to manage a healthy, viable wild horse herd.